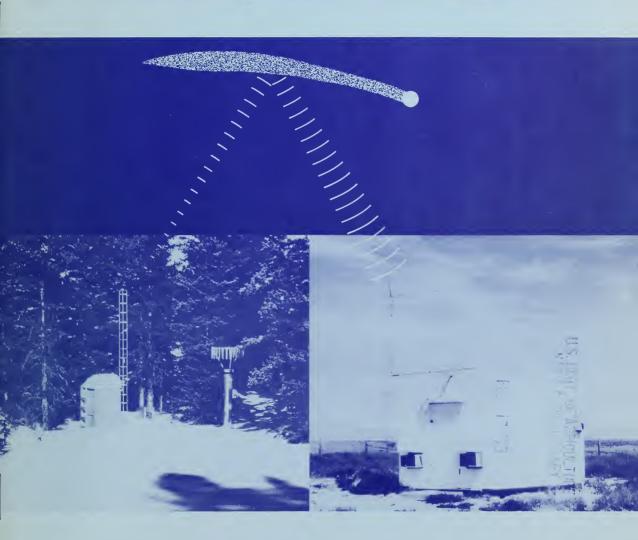
### **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



Rescire 1.96 R31Fsm

# WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO



#### U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

COLORADO STATE UNIVERSITY EXPERIMENT STATION
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

FEB. 1, 1978

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

#### TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SOME OF THE DATA IN THIS REPORT HAVE BEEN RECEIVED THROUGH THE SOIL CONSERVATION SERVICE'S NEW SNOTEL SYSTEM WHICH TRANSMITS INFORMATION VIA THE SPACE AGED METEOR BURST METHOD FROM DATA SITES TO MASTER STATIONS LIKE THESE.

#### PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western . United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

#### PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



# WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

R. M. DAVIS

ADMINISTRATOR SOIL CONSERVATION SERVICE WASHINGTON, D.C.

Released by

ROBERT G. HALSTEAD

STATE CONSERVATIONIST SOIL CONSERVATION SERVICE DENVER, COLORADO ALBERT W. HAMELSTROM

STATE CONSERVATIONIST SOIL CONSERVATION SERVICE ALBUQUERQUE, NEW MEXICO

In Cooperation with

JOHN PATRICK JORDAN DIRECTOR

C S U
EXPERIMENT STATION

S. E. REYNOLDS

STATE ENGINEER STATE OF NEW MEXICO C. J. KUIPER

STATE ENGINEER STATE OF COLORADO

Report prepared by

JACK N. WASHICHEK, Snow Survey Supervisor BERNARD A. SHAFER, Assistant Snow Survey Supervisor JUDY R. TEILBORG, Statistical Assistant

> SOIL CONSERVATION SERVICE SNOW SURVEY UNIT P.O. BOX 17107 DENVER, COLORADO 80217

#### TABLE OF CONTENTS

#### WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

#### WATERSHED I - SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson, Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Volley, Southeost Weld, and West Greeley Soil Conservation Districts.

#### WATERSHED II -ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Block Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca, Southeastern Baca, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, Kiowa County, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

#### WATERSHED III -RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Conejos, Mosca Hooper, Mt. Blanca, Sanchez, and Culebra Soil Conservation Districts.

#### WATERSHED IV -RIO GRANDE WATERSHED (NEW MEXICO)

Describes wa ter supply conditions in Upper Chama, East Rio Arriba, Taos, Lindrith, Jemez, Santa Fe – Pojoaque, Sondoval, Tijeros, Cuba, and Edgewood Soil Conservotion Districts.

#### WATERSHED V - DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin. Dove Creek, Dolores, Mancos, LaPlata, Pine River, San Juan, Son Miguel Basin, and Glade Park Soil Conservation Districts.

#### WATERSHED VI - GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimorron, Shovano, and Uncompangre Soil Conservation Districts.

#### WATERSHED VII - COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Plateau Valley, Lower Grand Valley, Bookcliff, Eagle County, Middle Pork, Glade Park, Upper Grand Valley, South Side, and and Mt. Sopris Soil Conservation Districts.

#### WATERSHED VIII -YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, White River, and Douglas Creek Soil Conservation Districts.

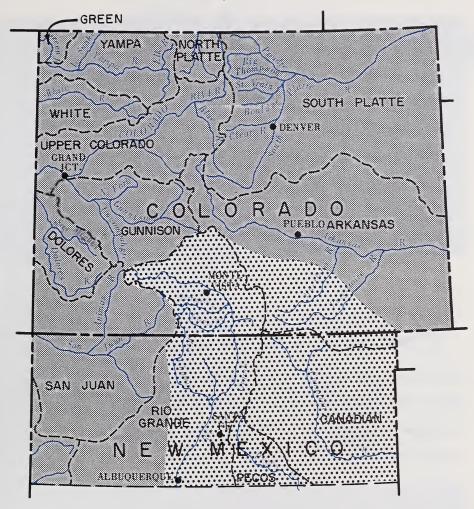
#### WATERSHED IX -LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Hoxton, Peetz, Padroni, Morgon, Rock Creek, and Yuma Soil Conservation Districts.

#### APPENDIX I - SNOW SURVEY MEASUREMENTS

#### WATER SUPPLY OUTLOOK

as of FEBRUARY 1, 1978







The map on this page indicates the most probable water supply as of the date of this report. Estimates assume average conditions of snow fall, precipitation and other factors from this date to the end of the forecast period. As the season progresses accuracy of estimates improve. In addition to expected streamflow, reservoir storage, soil moisture in irrigated areas, and other factors are considered in estimating water supply. Estimates apply to irrigated areas along the main streams and may not indicate conditions on small tributaries.

#### WATER SUPPLY CONDITIONS

as of

FEBRUARY 1, 1978

THE OUTLOOK FOR A GOOD WATER SUPPLY THIS COMING SPRING IS MUCH BRIGHTER THAN LAST YEAR AS A RESULT OF GOOD PRECIPITATION IN THE FORM OF SNOW IN THE MOUNTAINS DURING DECEMBER AND JANUARY. THE ONLY EXCEPTIONS TO THIS OPTIMISTIC OUTLOOK ARE IN THE HEADWATERS OF THE RIO GRANDE WHERE THE SNOWPACK REMAINS 25% BELOW NORMAL. A CONTINUING SERIES OF DISTURBANCES MOVING THROUGH COLORADO DURING DECEMBER AND JANUARY BROUGHT ALMOST DAILY OCCURRENCES OF SNOWFALL AT HIGHER ELEVATIONS ALONG THE CONTINENTAL DIVIDE. AS A RESULT MOST STREAMS ARE FORECAST TO FLOW 30% ABOVE NORMAL DURING SPRING RUNOFF. NEW MEXICO STREAMS ARE FORECASTED TO FLOW 30% BELOW AVERAGE.

COLORADO -- SNOWPACK IN THE STATE RANGES FROM A HIGH OF 164% OF NORMAL ON THE BIG THOMPSON DRAINAGE TO A LOW OF 75% OF NORMAL ON THE RIO GRANDE. THERE EXISTS A GRADUAL TRANSITION FROM HEAVY SNOWPACKS IN THE NORTH AND CENTRAL REGIONS TO NEAR AVERAGE AND BELOW IN THE SOUTHERN MOUNTAINS. IF NORMAL PRECIPITATION IS RECEIVED FOR THE REMAINDER OF THE SEASON RUNOFF SHOULD BE 10 TO 35% ABOVE NORMAL ON MOST STREAMS WITH THE EXCEPTION OF THE RIO GRANDE BASIN. RESERVOIR STORAGE REMAINS 40% BELOW NORMAL STATEWIDE AS A REFLECTION OF DRAWDOWN DURING LAST YEAR'S DROUGHT. SOIL MOISTURE IN MOST AREAS IS POOR

FLOWS 25 TO 35% BELOW NORMAL AND SIMILAR TO LAST YEAR'S RUNOFF.

POOR SNOWFALL IN THE MOUNTAINS HAS RESULTED IN A DEFICIENT SNOWPACK IN THE

SAN JUAN MOUNTAINS AND MOST OF THE SANGRE DE CRISTO RANGE. WITH ABOUT 70% OF

THE SNOW SEASON COMPLETED THE CHANCES FOR A NORMAL WATER SUPPLY ARE BECOMING

SLIMMER. THIS IS NOT GOOD NEWS IN LIGHT OF RESERVOIR STORAGE FIGURES WHICH

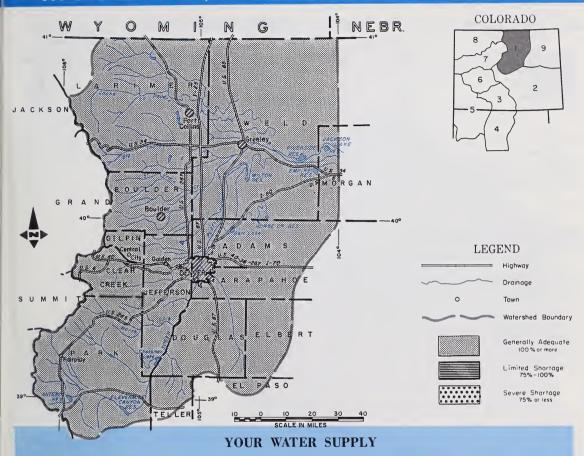
ARE 30% BELOW NORMAL. SOIL MOISTURE IN MOST AREAS IS RATED AS FAIR TO POOR.

# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1978

# U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



DECEMBER AND JANUARY BROUGHT GOOD SNOW TO THE MOUNTAINS ALONG THE CONTINENTAL DIVIDE. AN EXCELLENT SNOWPACK EXISTS FOR THIS TIME OF YEAR AND PROSPECTS FOR A SPRING RUNOFF 30% ABOVE NORMAL ARE GOOD ON ALL FRONT RANGE STREAMS. THIS WILL HELP REPLENISH RESERVOIRS WHICH ARE CURRENTLY ONLY 70% OF AVERAGE. SOIL MOISTURE IS RATED AS FAIR TO GOOD.

JACK N. WASHICHEK—BERNARD A. SHAFER SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE DENVER, COLORADO

This report prepared by

ROBERT G. HALSTEAD—STATE CONSERVATIONIST
DENVER, COLOMBO

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE
RODNEY M. ALI - AREA CONSERVATIONISI
GERROLL TO BE SOIL CONSERVATION SERVICE
RODNEY M. ALI - AREA CONSERVATIONISI
GERROLL TO BE SOIL CONSERVATION SERVICE
RODNEY M. ALI - AREA CONSERVATIONISI
GERROLL TO BE SOIL CONS

FORECAST POINT	FORE - CAST	% of Average	Average *
Big Thompson River at Drake (1)	140	131	107
Boulder Creek at Orodell	65	133	49
Cache La Poudre River at Canyon Mouth (2)	310	126	247
Clear Creek at Golden (3)	170	134	127
St. Vrain Creek at Lyons	100	133	75
(1) Observed flow plus by-pass to power plants. (2) Observed flow minus trans-basin diversions plu diversion through August F. Gumlick Tunnel.	us municipal and irrigo	ation diversions. (	3) Observed flow minu

WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow F	Period
STREAM or AREA	Spring Season	Late Season
Bear Creek	Exc.	Exc.
Coal Creek	Exc.	Exc.
North Fork of South Platte	Exc.	Exc.
North Fork of Cache La Poudre	Exc.	Exc.
Ralston Creek	Exc.	Exc.
Rock Creek	Exc.	Exc.

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or	Number of Courses	THIS YEAR'S SNOW WATER AS PERCENT OF		
SUB-WATERSHED	Averaged	Last Year	Average *	
Big Thompson	4	595	164	
Boulder	3	317	150	
Cache La Poudre	6	433	147	
Clear Creek	5	279	147	
Saint Vrain	2	439	158	
South Platte	2	346	129	

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable	U	sable Stora	ge
RESERVOIR	Capacity	This Year	Last Year	Average*
Antero	33	14	15	14
Barr Lake	32	14	25	21
Black Hollow	8	3	4	4
Boyd Lake	44	16	34	37
Cache La Poudre	10	5	0	8
Carter Lake	109	54	64	77
Chambers Lake	9	4	2	3
Cheesman	79	28	32	56
Cobb Lake	34	0	5	15
Eleven Mile	98	82	90	87
Fossil Creek	12	7	6	7
Gross	43	22	22	29
Halligan	6	3	2	3
Horsetooth	144	29	71	86
Lake Loveland	14	9	9	9
Lone Tree	9	5	3	6
Mariano	5	5	5	5
Marshall	10	1	3	4
Marston	18	16	16	14
Milton	24	10	15	13
Standley	42	19	27	15
Terry	8	6	6	5
Union	13	9	13	10
Windsor	19	6	8	10

\* 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

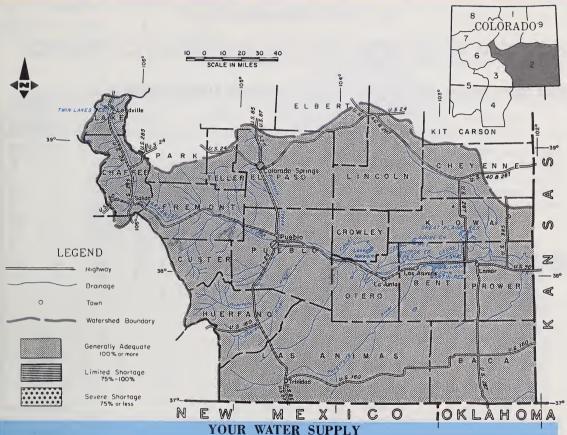
POSTAGE AND FEES PAID U.S. DEPARTMENT OF AGRICULTURE AGR.—101



# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE ARKANSAS RIVER WATERSHED IN COLORADO

as of FEBRUARY 1, 1978

## U.S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



THE HEADWATERS OF THE ARKANSAS RIVER HAVE A SNOWPACK 143% OF NORMAL WHICH SHOULD HELP RELIEVE THE WATER SHORTAGE OF DOWNSTREAM USERS SUFFERING FROM THE PROLONGED DROUGHT. SPRING FLOWS ARE EXPECTED TO BE SLIGHTLY ABOVE NORMAL ON THE ARKANSAS RIVER. SNOW IN THE SANGRE DE CRISTO RANGE IS 15% BELOW NORMAL WHICH WILL LIKELY RESULT IN LESS THAN NORMAL RUNOFF THIS SPRING.

RESERVOIR STORAGE IN THE BASIN IS STILL EXTREMELY POOR AND SOILS ARE VERY DRY.

ROBERT G. HALSTEAD—STATE CONSERVATIONIST BOGER A. HANSEN—AREA CONSERVATIONIST LA JUHRA, COLORADO

U.S. DEPARTMENT OF AGRICULTURE— SOIL CONSERVATION SERVICE

D. W. GILLASPIE. A REA CONSERVATIONIST ALAMOSA, COLORADO

FORECAST POINT	FORE-	% of	*
	CAST	Average	Average
Arkansas River near Pueblo (1)	340	117	290
Arkansas River at Salida (2)	370	118	313
Cucharas River near La Veta	8	80	10
Huerfano River near Redwing	11	73	15
Purgatoire River at Trinidad (3)	30	79	38

(1) Plus change in storage in Pueblo Reservoir. (2) Observed flow plus change in Clear Creek, Twin Lakes and Turquoise Reservoirs minus diversions through Busk Ivanhoe, Boustead, Divide, Twin Lakes and Homestake Tunnels and Eving, Fremont Pass, Wurtz and Columbine ditches. (3) Change in storage in Trinidad Reservoir.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow	Period
STREAM or AREA	Spring Season	Late Season
Apishapa River	Fair	Fair
Fountain Creek	Avg.	Fair
Grape Creek	Fair	Poor
Hardscrabble Creek	Fair	Poor
Monument Creek	Fair	Poor

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or	Number of Courses	THIS YEAR'S SNOW WATER AS PERCENT OF		
SUB-WATERSHED	Averaged	Last Year	Average *	
Arkansas	8	412	143	
Cucharas	2	96	85	
Purgatoire	1	121	80	

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

WESEKADIK SIOKMAE (	illougullu	NU. 11.)	END OF I	OHTH
RESERVOIR	Usable	u	sable Stora	ge
RESERVOIR	Capacity This Year		Last Year	Average *
Adobe Clear Creek Cucharas Great Plains Horse Creek John Martin Meredith Model Turquoise Twin Lakes	62 11 40 150 27 621 42 15 121 58	0 4 0 0 0 2 0 0 0 48 24	0 6 0 0 8 12 0 0 32 7	17 8 3 49 6 85 10 3 16 26

¥ 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

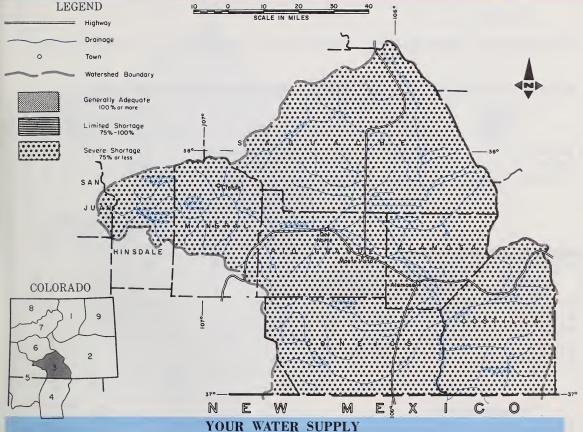




# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE UPPER RIO GRANDE WATERSHED IN COLORADO

as of FEBRUARY 1, 1978

# U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



RELIEF FROM LAST YEAR'S DROUGHT DOES NOT APPEAR IMMINENT UNLESS HEAVY SNOWFALL OCCURS THE NEXT TWO MONTHS. THE MOUNTAIN SNOWPACK IN THE RIO GRANDE HEAD—WATERS IS 25% BELOW NORMAL. SNOWPACK IN THE SANGRE DE CRISTO RANGE IS ONLY SLIGHTLY BETTER. THE RIO GRANDE IS EXPECTED TO FLOW 35% BELOW NORMAL UNLESS ABOVE NORMAL PRECIPITATION IS RECEIVED FROM NOW ON. RESERVOIR STORAGE REMAINS 40% BELOW NORMAL AND SOILS ARE DRY.

 ROBERT G. HALSTEAD—STATE CONSERVATIONIST

D. W. GILLASPR—AREA CONSERVATIONIST
ALMOSA, COLORADO

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE

CAST	% of Average	Average
4.0	6 5	62
		62
		184
16	94	17
85	70	121
310	66	467
75	65	115
	40 140 16 85 310	40 65 140 76 16 94 85 70 310 66

(1) Observed flow plus change in storage in Platoro Reservoir. (2) Observed flow plus change in storage in Sanchez Reservoir. (3) Observed flow plus change in storage in Santa Maria, Rio Grande and Continental Reservoirs.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow	Period
STREAM or AREA	Spring Season	Late Season
Saguache Creek Sangre de Cristo Cr. Trinchera Creek	Fair Fair Fair	Poor Poor Poor

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN	Number of		AR'S SNOW
and/or	Courses		PERCENT OF
SUB-WATERSHED	Averaged	Last Year	Average *
Alamosa	1	400	91
Conejos	2	249	81
Culebra	1	150	102
Rio Grande	10	302	75

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable	U	able Storag	je
KESERVOIK	Capacity	This Year	Last Year	Average *
Continental Platoro Rio Grande Sanchez Santa Maria Terrace	27 60 46 103 45 18	4 13 5 4 4 -	16 14 3 4 7 5	5 9 19 13 6 5

¥ 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

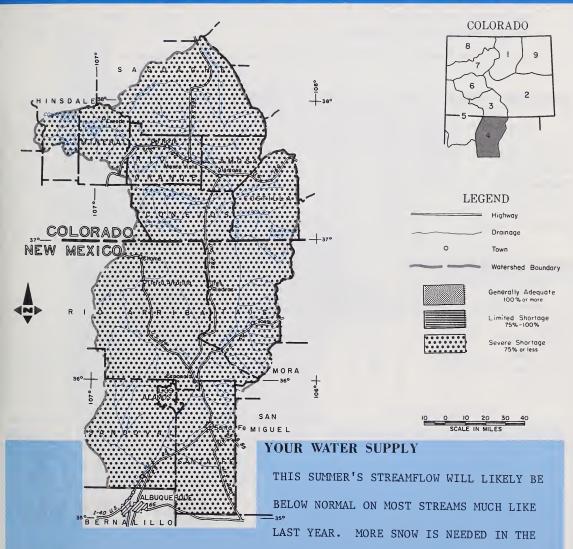
OFFICIAL BUSINESS PENALTY FOR PRIVATE USE, \$300 POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR-101



# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE RIO GRANDE WATERSHED IN NEW MEXICO

as of FEBRUARY 1, 1978

## U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



MOUNTAINS. RESERVOIRS ARE DRAWN DOWN TO NEAR HALF OF THEIR AVERAGE FOR THIS TIME OF YEAR. SOIL MOISTURE IS GENERALLY POOR.

\_This report prepared by \_

JACK N. WASHICHEK—BERNARD A. SHAFER SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE DENVER, COLORADO A. W. HAMELSTROM-STATE CONSERVATIONIST ALBUQUERQUE, NEW MEXICO

JAMES E. TATUM-AREA CONSERVATIONIST

U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

#### STREAMFLOW FORECASTS (1000 Ac. Ft.) March-July

FORECAST POINT	FORE - CAST	% of Average	Average ¥
Costilla Creek at Costilla (1)	17	89	19
Jemez River near Jemez	20	69	29
Pecos River at Pecos	26	63	41
Red River at Mouth near Questa	26	90	29
Rio Chama at El Vado	140	74	190
Rio Grande at Otowi (2)	350	66	526
Rio Grande at San Marcial (2)	230	65	355
Rio Hondo near Valdez	14	100	14
Santa Cruz River at Cundiyo	8	62	12

(1) Observed flow plus change in Costilla, Reservoir. (2) Observed flow plus change in storage in El Vado and Abiquiu Reservoir.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow	Period
STREAM or AREA	Spring Season	Late Season
Embudo Creek	Fair	Poor
Mora River	Fair	Poor
Nambe Creek	Fair	Poor
Rio Ojo Caliante	Fair	Poor
Rio Pueblo de Taos	Fair	Poor
Santa Fe Creek	Fair	Poor

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

Number of Courses		R'S SNOW PERCENT OF
Averaged	Last Year	Average *
1	93	104
1	77	69
2	195	98
8	104	73
-		
	Courses Averaged  1 1 2	Courses   WATER AS     Last Year     1

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

	Usable	L	Isable Stora	ige
RESERVOIR	Capacity	This Year	Last Year	Average
Avalon Caballo Conchas El Vado Elephant Butte McMillan Sumner	5 344 273 195 2195 34 111	2 19 107 27 215 8 42	4 133 83 110 318 3 20	3 50 185 2 442 17 80

¥ 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOLL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, 5300

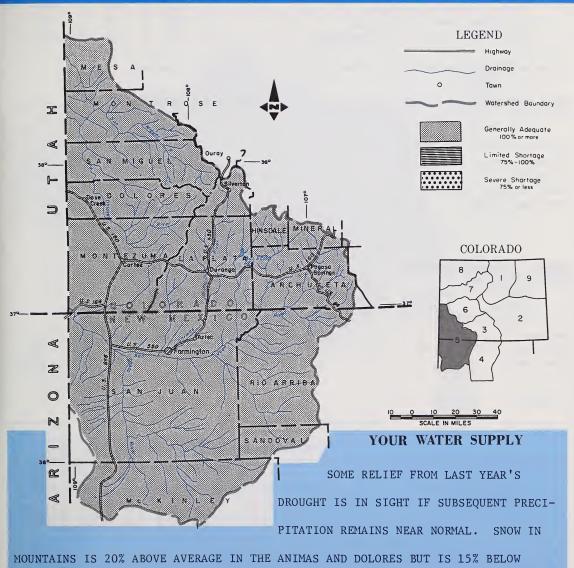




# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE SAN MIGUEL, DOLORES, ANIMAS, AND SAN JUAN WATERSHEDS IN COLORADO AND NEW MEXICO

as of FEBRUARY 1, 1978

## U. S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



This report prepared by\_

JACK N. WASHICHEK—BERNARD A. SHAFER SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE DENVER, COLORADO

NORMAL IN THE SAN JUAN BASIN.

ROBERT G. HALSTEAD—STATE CONSERVATIONIST DENVER, COLORADO A. W. HAMELSTROM—STATE CONSERVATIONIST ALBUQUERQUEE NEW MEXICO

U.S. DEPARTMENT OF AGRICULTURE – SOIL CONSERVATION SERVICE

D. W. GILLASPE – AREA CONSERVATIONIST
JAMES ENTINE – AREA CONSERVATIONIST SANTAR F, IROW MERION.

PROSPECTIVE STREAMFLOW SHOULD BE NEAR NORMAL.

FORECAST POINT	FORE- CAST	% of Average	Average *
Animas River at Durango	450	106	423
Dolores River at Dolores	265	114	232
La Plata River at Hesperus	26	108	24
Los Pinos River at Bayfield (1)	200	100	198
Mancos River near Towac (2)	14	100	14
Inflow to Navajo River (1 & 3)	580	97	597
Piedra Creek at Arboles	150	81	185
San Juan River at Carracas	280	79	354
San Miguel River at Placerville	150	115	130

(1) Observed flow plus change in storage in Vallecito Reservoir. (2) March-July. (3) April-July.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow	Period
STREAM or AREA	Spring Season	Late Season
Florida River Hermosa Creek West Dolores River Williams Creek	Avg. Avg. Exc. Avg.	Avg. Avg. Avg. Avg.

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or	Number of Courses		AR'S SNOW PERCENT OF
SUB-WATERSHED	Averaged	Last Year	Average *
Animas	5	441	117
Dolores	5	466	129
San Juan	5	271	84

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

	MESERVOIR STORMUL (	nousanu	nu. 11.)	END OF M	ONTH
	RESERVOIR	Usable		sable Storag	ge
Į	RESERVOIR	Capacity	This Year	Last Year	Average
	Groundhog Jackson Gulch Lemon Navajo Vallecito	22 10 40 1696 126	6 3 5 956 20	66 17 17 1145 47	9 4 19 1237 53

\* 1958-1972 period

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

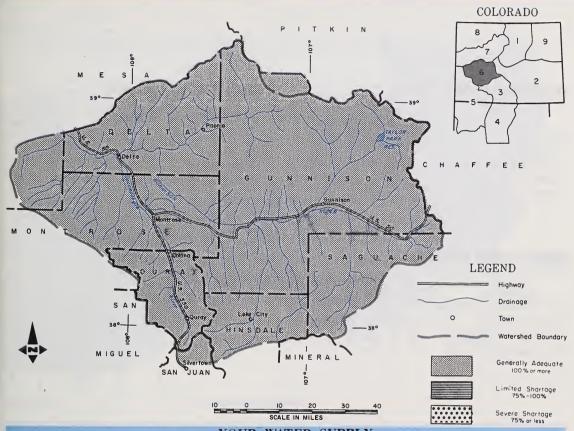




# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE GUNNISON RIVER WATERSHED IN COLORADO

as of FEBRUARY 1, 1978

# U.S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



#### YOUR WATER SUPPLY

THE SNOWPACK IS 400% OF LAST YEAR'S RECORD LOW LEVELS AND PROMISES A GOOD SPRING AND SUMMER RUNOFF. ALL STREAMS ARE FORECASTED TO FLOW BETWEEN 10 AND 20% ABOVE NORMAL AND SHOULD HELP FILL RESERVOIRS WHICH HAVE ONLY HALF OF THEIR NORMAL CONTENTS FOR THIS TIME OF YEAR. ABOUT 60% OF THE WINTER'S SNOW IS ON THE GROUND BY FEBRUARY 1. WE STILL HAVE OVER TWO MONTHS IN THE PRIMARY SNOW ACCUMULATION SEASON.

 ROBERT G. HALSTEAD—STATE CONSERVATIONIST

DENVE, COLORADO

U.S. DEPARTMENT OF A GRICULTURE — SOIL CONSERVATION SERVICE

FORECAST POINT	FORE - CAST	% of Average	Average *
Gunnison River inflow to Blue Mesa Reservoir (1) Gunnison River near Grand Junction (2) North Fork of Gunnison (3) Surface Creek near Cedaredge Uncompangre River at Colona	900	114	792
	1350	114	1184
	290	110	263
	19	118	16
	160	119	134

(1) Observed flow plus change in storage in Taylor Reservoir. (2) Observed flow plus change in storage in Blue Mesa, Morrow Point and Taylor Reservoirs. (3) Observed flow plus change in storage in Paonia Reservoir.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow P	errod
STREAM or AREA	Spring Season	Late Season
Ohio Creek Slate River Taylor River Tomichi Creek	Exc. Exc. Exc. Exc.	Avg. Avg. Avg.

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

10	Last Year	Average *
10		
	408	130
3	494	127
3	359	139
	3	3 359

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

LESEKANIK ZINKARE (	inousanu	AC. Pt.)	END OF	MONTH
	Usable	U	sable Stora	ge
RESERVOIR	Capacity	This Year	Last Year	Average*
Blue Mesa	830	239	415	491
Morrow Point	121	114	115	100
Taylor	106	34	59	63

\* 1958-1972 period

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

OFFICIAL BUSINESS PENALTY FOR PRIVATE USE, \$ 300 POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE
AGR = 101

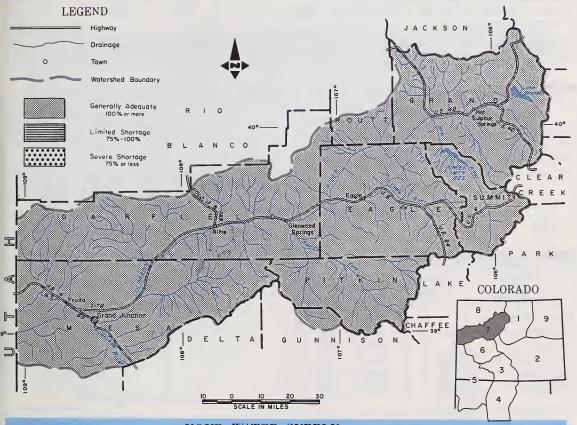


# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE COLORADO RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1978

## U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



#### YOUR WATER SUPPLY

DECEMBER AND JANUARY WERE PARTICULARLY GOOD MONTHS FOR PRECIPITATION IN THE BASIN. BASIN-WIDE PRECIPITATION WAS 165% OF NORMAL DURING JANUARY. SNOW-PACKS ARE EXCEPTIONAL AND ARE MOSTLY AROUND 150% OF AVERAGE. THIS CONDITION SHOULD GENERATE SPRING RUNOFFS 15 TO 30% ABOVE NORMAL. THESE FLOWS WILL BE MOST WELCOME AFTER LAST SEASON'S DRY SPELL. RESERVOIR LEVELS ARE GENERALLY WELL BELOW NORMAL BUT SHOULD RECOVER IF THE FORECASTED FLOWS MATERIALIZE.

 ROBERT G. HALSTEAD—STATE CONSERVATIONIST DEAN F. FISHER—AREA CONSERVATIONIST GRAND JUNCTION, COLORADO

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE

FORECAST POINT	FORE- CAST	% of Average	Average *
Blue River inflow to Dillon Reservoir	220	130	169
Blue River inflow to Green Mountain Reservoir (1) Colorado River near Cameo (6)	380	128 126	297 2370
Colorado River near Dotsero (3)	1900	132	1434
Colorado River inflow to Granby Reservoir (2)	300	132	228
Roaring Fork at Glenwood Springs (4) Williams Fork near Parshall (5)	820	115	713
Willow Creek inflow to Willow Creek Reservoir	90	143 138	63

(1) Observed flow plus diversions through Roberts Tunnel and change in storage in Dillon Reservoir. (2) Observed flow corrected for change in storage in Lake Granby as furnished by U.S.B.R. and diversions by Adams Tunnel and Grand River Ditch. (3) Observed flow plus the changes as indicated in (1), (2) and (5) plus Mosfiat Ditch and change in Homestake, Williams Fork, Green Mt. and Willow Creek Reservoirs. (4) Observed flow plus diversions through Divide and Twin Lakes Tunnels of use change in storage in Ruedi Reservoir. (5) Observed flow plus diversions through August P. Gumlick Tunnel. (6) Observed flow plus the changes as indicated in (3) and (4).

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

STREAM or AREA	Flow	Period
	Spring Season	Late Season
Brush Eagle River Gypsum Creek	Exc. Exc. Exc.	Avg. Avg. Avg.

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or	Number of Courses		R'S SNOW PERCENT OF
SUB-WATERSHED	Averaged	Last Year	Average ¥
Blue River	6	349	149
Colorado	18	377	151
Plateau	3	484	124
Roaring Fork	7	416	128
Williams Fork	3	369	157
Willow	2	346	140

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

industrial Company Company			LIND 01 1	1011111
RESERVOIR	Usable	Us	able Storag	e
RESERVOIR	Capacity	This Year	Last Year	Average
Dillon	254	122	215	234
Granby	466	75	216	255
Green Mountain	139	51	76	77
Homestake	43	0	23	20
Ruedi	101	80	69	70
Vega	32	_	6	10
Williams Fork	97	27	52	34
Willow Creek	9	7	6	6

¥ 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217

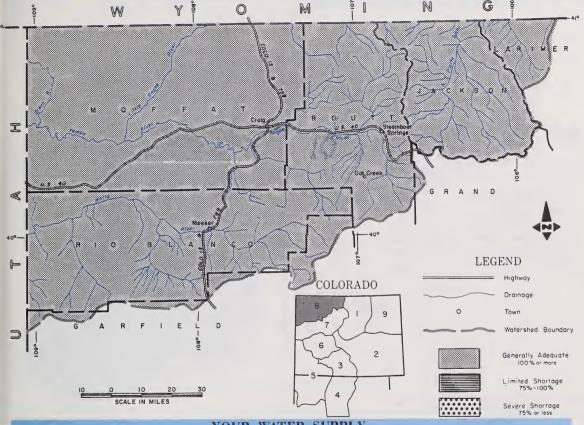
OFFICIAL BUSINESS PENALTY FOR PRIVATE USE, \$300 POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE
AGR = 101



# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE YAMPA, WHITE, AND NORTH PLATTE RIVER WATERSHEDS IN COLORADO

as of FEBRUARY 1, 1978

## U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



YOUR WATER SUPPLY

A COMPLETE REVERSAL OF LAST YEAR'S SNOWPACK IS IN EVIDENCE THIS YEAR. ALL WATERSHEDS REPORT SNOW 130 TO 160% OF AVERAGE AND 400% OF LAST YEAR'S PACK.

SEVERAL COURSES MEASURED MAXIMUM OF RECORD. THE OUTLOOK FOR THIS SEASON'S WATER SUPPLY IS EXCELLENT AND IS PREDICTED TO BE BETWEEN 30 AND 40% GREATER THAN NORMAL ON ALL WATERSHEDS. SOIL MOISTURE IS FAIR TO GOOD IN MOST AREAS.

This repart prepared by \_

JACK N. WASHICHEK—BERNARD A. SHAFER SNOW SURVEY UNIT, SOIL CONSERVATION SERVICE DENVER, COLORADO ROBERT G. HALSTEAD—STATE CONSERVATIONIST

DEAN F. FRIER—AREA CONSERVATIONIST

DEAN F. FRIER—AREA CONSERVATIONIST

GRAND JUNCTION, COLORADO

U.S. DEPARTMENT OF AGRICULTURE—SOIL CONSERVATION SERVICE

FORECAST POINT	FORE - CAST	% of Average	Average *
Elk River at Clark Laramie River near Woods Little Snake River at Lily North Platte River at Northgate White River near Meeker Yampa River near Maybell Yampa River at Steamboat Springs	270	136	198
	165	132	127
	450	139	324
	336	140	240
	370	125	295
	1250	138	905
	380	139	274

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow Period		
STREAM or AREA	Spring Season	Late Season	
Canadian River	Exc.	Exc.	
Hunt Creek	Exc.	Exc.	
Illinois River	Exc.	Exc.	
Michigan River	Exc.	Exc.	
Oak Creek	Exc.	Exc.	
Trout Creek	Exc.	Exc.	

#### SUMMARY of SNOW MEASUREMENTS

RIVER BASIN	Number of		R'S SNOW
and/or	Courses		PERCENT OF
SUB-WATERSHED	Averaged	Last Year	Average *
Elk	1	426	157
Laramie	2	355	132
North Platte	5	313	147
White	2	346	142
Yampa	5	395	165

\* 1958-1972 period.

Return if not delivered
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
P.O. BOX 17107
DENVER, COLORADO 80217 OFFICIAL BUSINESS PENALTY FOR PRIVATE USE, \$300

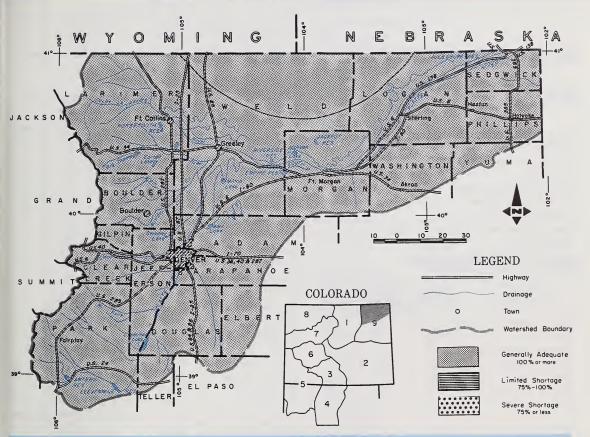
POSTAGE AND FEES PAID U. S. DEPARTMENT OF AGRICULTURE AGR - 101



# WATER SUPPLY OUTLOOK FOR THE SOIL CONSERVATION DISTRICTS IN THE LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of FEBRUARY 1, 1978

U.S. DEPARTMENT OF AGRICULTURE · SOIL CONSERVATION SERVICE CSU EXPERIMENT STATION, STATE ENGINEERS OF COLORADO AND NEW MEXICO



#### YOUR WATER SUPPLY

FRONT RANGE STREAMS ARE IN GOOD SHAPE WITH SNOWPACKS AROUND 150% OF NORMAL. WITH AVERAGE PRECIPITATION FROM NOW ON STREAMFLOWS ARE EXPECTED TO BE ABOUT 30% ABOVE THE NORM. THIS SHOULD HELP REFILL RESERVOIRS WHICH WERE DEPLETED DURING LAST YEAR'S RECORD DRY SPELL. SOIL MOISTURE IN MOST IRRIGATED AREAS IS RATED AS FAIR TO GOOD.

 ROBERT G. HALSTEAD - STATE CONSERVATIONIST ROBERT G. HALSTEAD - STATE CONSERVATIONIST ROBERT G. HALSTEAD - STATE CONSERVATIONIST GREEF, COLONADO GREEF, COLONA

FORECAST POINT	FORE- CAST	% of Average	Average*
Big Thompson River at Drake (1) Boulder Creek at Orodell Cache La Poudre River at Canyon Mouth (2) Clear Creek at Golden (3) Saint Vrain Creek at Lyons (4)	140	131	107
	65	133	49
	310	126	247
	170	134	127
	100	133	75

(1) Observed flow plus by pass to power plants. (2) Observed flow minus trans-basin diversions plus municipal and irrigation diversions. (3) Observed flow minus diversion through Berthoud Pass Ditch. (4) Observed flow plus change in storage in Price Reservoir.

#### WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply.

	Flow P	eriod
STREAM or AREA	Spring Season	Late Season
South Platte from Greeley to Fort Morgan	Exc.	Avg.
South Platte from Fort Morgan to Sterling	Exc.	Avg.
South Platte below Sterling	Exc.	Avg.

#### SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or	Number of Courses		AR'S SNOW PERCENT OF
SUB-WATERSHED	Averaged	Last Year	Average*
Big Thompson	4	595	164
Boulder	3	317	150
Cache La Poudre	6	433	147
Clear Creek	5	279	147
Saint Vrain	2	439	158
South Platte	2	346	129

#### RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

250521/012	Usable	Usable Storage		
RESERVOIR	Capacity	This Year	Last Year	Average*
Carter	109	54	64	77
Cheesman	79	28	32	56
Eleven Mile	98	82	90	87
Empire	38	14	26	26
Horsetooth	144	29	71	86
Jackson	35	29	30	28
Julesburg	28	20	19	20
Point of Rocks	70	47	50	53
Prewitt	33	11	23	16
Riverside	58	28	42	45

\* 1958-1972 period.

NITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE SNOW SURVEY UNIT P.O. BOX 17107

DENVER, COLORADO 80217

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID U. S. DEPARTMENT OF AGRICULTURE AGR - 101



#### APPENDIX I

.5

SNOW COURSE MEASUREMENTS as of FEBRUARY 1, 1978

			INFORMATION	PAST RECORD  WATER CONTENT (INCHES)			CURRENT INF		RMATION	PAST RECO	
SNOW COURSE	OATE OF SURVEY	SNOW OEPTH (INCHES)	WATER CONTENT (INCHES)	LAST YEAR	AVG. 58-72	SNOW COURSE	OATE OF SURVEY	SNOW OEPTH (INCHES)	WATER CONTENT (INCHES)	WATER C	AVO 58-1
NORTH PLATTE BASIN		1		Ī		Cucharas River		<u> </u>			F
Laramie River						Apishapa	1/30	15	4.2	4.2	4
Deadman Hill	1/26	41	12.2	2.6	10.4	Cucharas Creek	1/30	17	4.4	4.5	
Roach	1/28	59	15.5		10.6	La Veta Pass (B)	2/02	18	4.4	4.8	5
North Platte River						Purgatoire River Bourbon	1/31	21	3.5	2.9	4
Cameron Pass	2/01	71	23.9	8.6	16.5	RIO GRANDE BASIN-COLO					
Columbine Lodge	1/30	85	26.5		14.3	Alamosa River					
Northgate	2/01	21	4.2	1.8	3.8	Silver Lakes	1/31	17	3.2	0.8	3
Park View	1/31	25	6.3	2.2	5.8	Direct names	1,51		3	""	]
Willow Cr. Pass (B)	1/31	34	9.9	3.2	7.7	Conejos River					
SOUTH PLATTE BASIN						Cumbres	1/24	54	12.1	5.1	13
Boulder Creek						La Manga	1/24	51	10.0	3.6	
Baltimore	1/30		5.8	2.8	5.1	Platoro	1/30	33	8.6	3.2	12
Boulder Falls	1/29	41	11.8	3.7	7.1						
University Camp	1/29	55	17.0	4.4	10.9	Culebra River	. /0=			١.,	
Big Thompson River						Brown Cabin	1/27	20 17	3.4	2.4	
Deer Ridge	2/01 2/01	18 37	5.2 10.4	0.0	2.9	Cottonwood (B) Culebra	1/27	30	5.7	3.8	
Hidden Valley	1/29	69	21.0	1.9	13.8	La Veta Pass (B)	2/02	18	4.4	4.8	
Lake Irene (B) Long's Peak	1/31	36	11.0	1.2	6.0	Trinchera (B)	1/30	19	3.4	3.2	
Two Mile	2/01	45	13.0	2.1	8.6	Rio Grande					
Cache La Poudre						Cochetopa Pass	1/24	21	4.2	1.5	3
Bennett Creek	1/30	25	5.4	0.7		Grayback	1/27	30	6.9	2.0	
Big South	1/27	13	2.3	0.2	1.4	Hiway	1/30	42	10.8	3.8	1
Cameron Pass	2/01	71	23.9	8.6	16.5	Lake Humphrey	1/26	16	2.4	1.2	
Chambers Lake	1/27	41	10.9	1.1	5.6	Love Lake	1/30	23	4.4	1.0	
Deadman Hill	1/26	41	12.2		10.4	Pass Creek Pool Table	1/30	14	2.4	1.0	
Hourglass Lake	1/30	26 68	6.6	0.7		Porcupine	1/30	27	6.2	1.3	
Joe Wright Lost Lake	2/01 1/27	45	21.0	9.1	7.7	Santa Maria	1/30	21	4.4	0.1	
Red Feather	1/26	23	5.9	0.8	4.0	Upper Rio Grande	1/30	24	4.9	1.4	5
	-,					Wolf Creek Pass	1/31	51	14.2	5.3	
Clear Creek	1/30	25	5.8	2.8	E 1	Wolf Cr. Summit (B)	1/30	50	13.0	4.8	18
Baltimore (B) Berthoud Falls	1/30	9	12.0	4.0	5.1 8.3	RIO GRANDE BASIN-NM					
Empire	1/30	1	5.5	2.2	4.5	Pecos River					1
Grizzly Peak (B)	1/26		17.0	l .	10.6	Panchuela	1/27	12	2.6	2.8	2
Loveland Lift	NS			9.1	12.2	Rio Chama					
Loveland Pass	1/26	50	15.0	5.0	9.0	Bateman	1/27	32	7.3	3.5	-
St. Vrain River						Chama Divide	1/25	18	3.0	1.5	
Copeland Lake	1/28		5.1	0.8	2.8	Chamita	1/24	27	5.2	2.7	5
Ward	1/30 1/28		5.0 11.9	1.5	3.6 7.2	Rio Grande				1	
Wild Basin	1/20	41	11.9		7.2	Alamitos	1/30	15	3.0	2.7	-
South Platte River					1 1	Bernal Trail	NS				-
Como	1/25		4.9	0.6		Big Tesuque	1/31	13	2.7	2.2	
Geneva Park Horseshoe Mt.	1/28	1	2.8 8.9	1.4		Elk Cabin	1/29	7 38	9.6	1.0	
Hoosier Pass	1/25	36	10.2	3.0	8.0	Hopewell La Cueva	1/30	15	3.8	3.0	1
Jefferson Creek	1/26	30	7.8	2.2	5.9	North Costilla	1/30	14	3.4		_
Mosquito	1/26	37	9.5	2.1		Palo	1/27	20	3.7	3.3	-
Trout Creek Pass	1/26	10	1.7	0.3		Payrole	1/30	21	5.2	3.4	6
ARKANSAS BASIN						Powderhouse	NS				-
Arkansas River						Quemazon	1/28	22	3.7	3.5	
Bigelow Divide	1/31		3.1	4.7		Rio En Medio	1/31	24	5.8	3.7	
Cooper Hill (B)	1/30		10.6	3.1	6.9	Sandoval Senorita Divide	1/27	11 21	4.3	2.6	
East Fork	1/30		8.6	2.6	6.0	Taos Canyon	1/27	13	2.0	4.0	
Four Mile Park	1/30		4.6	0.5	3.9	Tres Ritos	1/30		2.3	3.7	
Fremont Pass Garfield	1/30 1/31		15.3	4.0	9.8						
Hermit Lake	1/30		5.4	2.8		Rio Hondo	1/30	46	12.6	9.7	٠ -
	1/31	50	14.3		10.3	Taos Powderhorn	1/30	40	12.0	'''	
Monarch Pass								1			
Tennessee Pass	1/30		9.2	2.2	6.5	Red River					1 -
	1/30 1/20 1/30	35	9.2 10.0 13.9	2.2 0.9 2.8	6.0	Red River Hematite Park (B) Red River #2	1/26 1/26		2.0	2.6	2

NOTE: NS - No Survey
(B) - On Adjacent Drainage

#### APPENDIX I

#### SNOW COURSE MEASUREMENTS as of FEBRUARY 1, 1978

	DATE	SNOW	WATER	PAST RECORO WATER CONTENT (INCHES)			0175	SNO	RMATION
SNOW COURSE	OF SURVEY	DEPTH (INCHES)	CONTENT (INCHES)		AVG. 58-72	SNOW COURSE	OATE OF SURVEY	SNOW OEPTH (INCHES)	CON (INCH
AN JUAN-DOLORES BASIN				I TEAR	30-72	Colorado River			
						Arrow	1/30	44	10
Animas River	1 /20	22	0.0			Berthoud Pass	1/27	57	13
Cascade	1/30	33	9.6	2.0	8.0	Berthoud Summit	1/30	57	17
Lemon	1/31	23	6.2	2.2		Cooper Hill	1/30	40	10
Mineral Creek	1/30	45	11.8	2.6	9.9	Fiddler Gulch		ntinue	
Molas Lake	1/30	38	11.2	2.1	8.7	Glenmar Ranch	1/31	27	
Purgatory	1/30	51	13.1	1.9		Gore Pass	1/30	42	1
Red Mt. Pass (B)	1/30	80	23.0		19.0	Grand Lake	1/28	37	
Silverton Sub-Sta.	1/30	28	7.5		5.6	Lake Irene	1/29	69	2
Spud Mountain	1/30	55	15.8	3.6	15.2	Lapland	1/30	31	
Dolores River						Lulu	NS		
Lizard Head	1/30	50	12.6	2.0	10.4	Lynx Pass	1/30	47	1
Lone Cone	1/27	47	11.8	3.0	11.8	McKenzie Gulch	1/23	21	_
Ophir Loop	1/30	50	13.0	4.1		Middle Fork	1/31	31	
Rico	1/30	27	6.2	1.2	5.6	Milner	1/29	50	1
Telluride	1/30	34	8.2	2.2	4.7	North Inlet	1/30	36	1
Trout Lake	1/30	47	13.4	2.8	8.1	Pando	1/23	32	
						Phantom Valley	1/28	43	1
San Juan River	1/25	7.0	2.0			Ranch Creek	1/30	36	_
Chama Divide (B)	1/25	18	3.0	1.5	2.9	Tennessee Pass (B)	1/30	35	
Chamita (B)	1/24	27	5.2	2.7	5.5		1		1
Upper San Juan	1/30	65	18.0		19.1	Vail	2/01	65 44	1
Wolf Cr. Pass (B)	1/31	51	14.2		17.4	Vasquez	1/20	44	+
Wolf Cr. Summit	1/30	50	13.0	4.8	18.5	Roaring Fork		ļ	
GUNNISON BASIN						Aspen	1/28	50	1
JUNNISON BASIN						Independence Pass	1/20	44	1
Gunnison River						Ivanhoe	1/24	50	1
						Kiln	1/24	34	
Alexander Lake	1/30	60	16.4	3.5	12.7	Lift	1/28	52	1
Butte	1/26	44	12.2	2.8		McClure Pass	1/25	41	1
Cochetopa Pass (B)	1/24	21	4.2	1.5	3.6	Nast	1/27	32	-
Crested Butte	1/25	44	12.4	2.9	7.4	North Lost Trail	1/25	40	1
Keystone	1/26	63	18.6		13.1	NOTER LOST TRAIT	1/23	40	-
Lake City	1/23	27	6.2	0.9		Williams Fork River			
Mesa Lakes (B)	1/27	51	12.8		10.5	Glenmar Ranch	1/31	27	
McClure Pass	1/25	41	10.2		11.1	Jones Pass	1/27	57	1
Park Cone	1/25	32	7.9	1.5	6.1	Middle Fork	1/31	31	
Park Reservoir	1/30	66	18.7		14.6				1
	1/31	49	14.1		10.0	Willow Creek	1 /21	20	
Porphyry Creek Tomichi	1/31	40	11.3	3.1	8.1	Granby	1/31	29	
10mlcn1	1/31	40	11.5	3.1	0.1	Willow Cr. Pass	1/31	34	
Surface Creek						Plateau Creek	1		
Alexander Lake	1/30	60	16.4	3.5	12.7	Mesa Lakes	1/27	51	1
Mesa Lakes	1/27	51	12.8	2.4	10.5	Park Reservoir	1/30	66	1
Park Reservoir	1/30	66	18.7		14.6	Trickle Divide	1/30	67	1
									~
Uncompangre River	1 /00	12	12.0	, ,	0.0	YAMPA BASIN			
Ironton Park	1/30	43	13.0	4.2	8.0	Elk River			
Red Mountain Pass	1/30	80	23.0		19.0	Elk River	2/01	62	1
Telluride (B)	1/30	34	8.2	2.2	4.7	Hahn's Peak	1/30	53	1
COLORADO BASIN									
						White River	1/30	52	1
Blue River						Burro Mountain	1/31	46	1
						Rio Blanco	1/31	40	1
Blue River	1/25	30	7.3	2.4	5.2				
Fremont Pass	1/30	54	15.3	4.0	9.8				
Grizzly Peak	1/26	57	17.0		10.6	Yampa River			
Hoosier Pass (B)	1/25	36	10.2	3.0	8.0	Columbine (B)	1/30	85	2
Shrine Pass	1/23	52	15.0	4.0	10.3	Dry Lake	1/27	76	2
Snake River	1/26	38	8.2	1.7		Lynx Pass (B)	1/30	47	l ī
Summit Ranch	1/30	25	6.6	2.3		Rabbit Ears	1/30	83	2
Samue rollien	_, 55					Tower	1/31	154	5
							1/30	50	1
						Yampa View	1/30	00	1

NOTE: NS - No Survey

(B) - On Adjacent Drainage

PAST RECORD WATER CONTENT (INCHES) LAST AVG YEAR 58-72

3.1

2.9

2.1

2.0 6.6

3.1 7.6

2.7 5.1 2.2

1.8 6.5

2.1 7.7

2.8 3.5 10.1

2.4 5.1 8.7

3.1 2.8 5.7

1.8 4.7

3.2 7.7

2.4 10.5 3.8 14.6

4.3 16.0

4.2 11.4

4.4 11.5 4.0 9.0

6.8 14.3 5.1 12.0 3.1 7.6

5.7 16.1

12.5 9.8

4.3

3.1 ---

2.3 10.0 1.7 9.7 4.5 10.2

3.8 11.1 1.3 4.3 3.0 10.0

4.9 13.8

7.5

9.4 5.1 7.1 11.4 6.9

5.1 6.2 4.9 2.4

4.1 5.7 1.2 2.8

6.0 2.6 6.5 1.8 5.6

#### LIST of COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

#### STATE

Colorado State Engineer
New Mexico State Engineer
Nebraska State Engineer
Colorado State University Experiment Station
Rocky Mountain Forest and Range Experiment Station
New Mexico Dept. of Game and Fish

#### FEDERAL

Department of Agriculture
Forest Service
Soil Conservation Service
Department of Interior
Bureau of Reclamation
Geological Survey
National Park Service
Indian Service
Department of Commerce
NOAA, National Weather Service
Defense Department
Army Engineer Corps
Atomic Energy Comission

#### INVESTOR OWNED UTILITIES

Colorado Public Service Company Public Service Company of New Mexico

#### MUNICIPALITIES

City of Denver City of Greeley
City of Boulder City of Fort Collins

#### WATER USERS ORGANIZATIONS

Arkansas Valley Ditch Association Colorado River Water Conservation District

#### IRRIGATION PROJECTS

Farmers Reservoir and Irrigation Company
San Luis Valley Irrigation District
Santa Maria Reservoir Company
Costilla Land Company
Uncompangre Valley Water Users' Association
Twin Lakes Reservoir and Canal Company
Trinchera Irrigation Co.

#### CORPORATIONS

Aspen Skiing Corp.
Colorado Fuel and Iron Corp.
Climax Molybdenum Corp.
Lake Eldora Corp.
Vail Associates, Incorporated
Vermejo Park Corp. (NM)
Taylor Lumber and Land Company

#### PRIVATE CITIZENS

Otto Goemmer, Colorado Moreno Ranch, New Mexico

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE SNOW SURVEY UNIT P.O. Box 17107

DENVER, COLORADO 80217

OFFICIAL BUSINESS PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF
AGRICULTURE
AGRI-101

# FIRST CLASS MAIL

**FEDERAL - STATE - PRIVATE** 

**COOPERATIVE SNOW SURVEYS** domestic and municipal water water supply for irrigation, supply, hydro-electric power necessary for forecasting generation, navigation, Furnishes the basic data mining and industry

"The Conservation of Water begins with the Snow Survey"